AMENDMENTS TO THE CLAIMS

1.–25. (Cancelled)

26. (Currently amended) A method for aiding in the determination of whether a patient is susceptible to or at risk of Alzheimer's disease (AD), a disease associated with β-amyloid formation and/or aggregation, said method comprising:

(a) determining, in a sample of brain extract or cerebrospinal fluid obtained from said patient, the amount of a N-terminal truncated and/or post-translationally modified β-amyloid 42 variant selected from the group consisting of Aβ(2-42), Aβ(3-42), Aβ(4-42), Aβ(5-42), Aβ(6-42), Aβ(7-42), Aβ(8-42), and Aβ(9-42);

(b) comparing the amount of β-amyloid variant determined in step (a) with the amount of said variant ~~typically~~ present in control samples obtained from one or more patients known not to suffer from AD ~~said disease associated with β-amyloid formation and/or aggregation~~;

(c) determining, from the comparison in step (b) if the amount of β-amyloid variant determined in step (a) is greater than the amount of said variant ~~typically~~ present in control samples, that the patient is susceptible to or at risk of AD ~~said disease associated with β-amyloid formation and/or aggregation~~.

27.-34. (Cancelled)

35. (Previously presented) The method of claim 26 wherein the post-translationally modified β-amyloid variant is modified by methylation or pyroglutamylation.

36. (Previously presented) The method of claim 35 wherein the methylation is present at position 1, 2, 4, or 6 of an N-terminal truncated β-amyloid variant.

37. (Withdrawn) The method according to claim 35 further characterized in that the pyroglutamylation is present at position 3 of an N-terminal truncated β-amyloid variant starting at position 3 of β-amyloid.

38. (Cancelled)

39. (Cancelled)

40. (Previously presented) The method of claim 26 wherein the sample is a brain extract sample.

41. (Previously presented) The method of claim 26 wherein the sample is a cerebrospinal fluid (CSF) sample.

42. (Cancelled)

43. (Currently amended) The method of claim [[42]] 26 wherein the susceptibility to Alzheimer's disease (AD) or the risk of developing AD is determined by detecting Aβ(5-42) or Aβ(8-42).

44.-56. (Cancelled)

57. (Previously presented) The method of claim 26 wherein said β-amyloid variant is Aβ(4-42).

58. (Previously presented) The method of claim 26 wherein the post-translationally modified β-amyloid variant is modified by methylation.

59. (Previously presented) The method of claim 58 wherein the methylation is present at position 4 of an N-terminal truncated β-amyloid variant.

60. (Currently amended) The method of claim [[42]] 26 wherein the susceptibility to Alzheimer's disease (AD) or the risk of developing AD is determined by detecting Aβ(5-42).

61. (Previously presented) The method of claim 26 wherein the amount of N-terminal truncated and/or post-translationally modified β-amyloid variant is determined by 2-D electrophoresis or mass spectrometry or both.

62. (Cancelled)

63. (Previously presented) The method of claim 26 wherein the amount of the N-terminal truncated and/or post-translationally modified β-amyloid 42 ($A\beta_{42}$) variant is detected using an antibody that binds an epitope at the N-terminus of said variant.

64. (Cancelled)